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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/724,171	12/01/2003	Richard Fouquer	031293	9397
23850	7590	09/09/2005		
ARMSTRONG, KRATZ, QUINTOS, HANSON & BROOKS, LLP 1725 K STREET, NW SUITE 1000 WASHINGTON, DC 20006			EXAMINER ADDISU, SARA	
			ART UNIT	PAPER NUMBER
			3722	

DATE MAILED: 09/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/724,171

Applicant(s)

FOUQUER, RICHARD

Examiner

Sara Addisu

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 June 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 3-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 3-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 December 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Response to Arguments

Applicant amended the claims and Specification (filed 6/6/05), however the Applicant did not say the terms objected to in the Office Action mailed 3/10/05, are old and well known. Nor has Applicant explained what these terms mean (e.g. geometric function on page 14, growth function on page 16). Applicant simply changed the wording without further clarification therefore the Specification and 35 USC 112 rejection still stand. Applicant is requested to define/explain what the terms mean.

Drawings

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Claim 11 recites reference "I" and Position "X" Therefore, the "I" and X" must be shown or the feature(s) canceled from the claim(s). Also Claims 4 recites "the second relief angle (E) that is smaller than the first relief angle (D) of the flank area (43). Figure 3 of the instant application shows angle E being greater than angle D. No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure

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number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

The abstract of the disclosure is objected to because it is in claim format and contains legal phraseology, e.g. "comprising". Correction is required. See MPEP § 608.01(b).

35 U.S.C. 112, first paragraph, requires the specification to be written in "full, clear, concise, and exact terms." The specification is replete with terms which are not clear, concise and exact. The specification should be revised carefully in order to comply with 35 U.S.C. 112, first paragraph. Examples of some unclear, inexact or

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verbose terms used in the specification are: geometric function on page 14 and growth function on page 16.

Where applicant acts as his or her own lexicographer to specifically define a term of a claim contrary to its ordinary meaning, the written description must clearly redefine the claim term and set forth the uncommon definition so as to put one reasonably skilled in the art on notice that the applicant intended to so redefine that claim term. *Process Control Corp. v. HydReclaim Corp.*, 190 F.3d 1350, 1357, 52 USPQ2d 1029, 1033 (Fed. Cir. 1999). The claims are generally narrative and indefinite, failing to conform with current U.S. practice. They appear to be a literal translation into English from a foreign document and are replete with grammatical and idiomatic errors.

Claimed subject matter can't be determined based on Applicant's Specification and claimed language. Claims 3-18 have been examined as best understood based since the scope of the claim can't be clearly determined as Applicant is claiming.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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Claims 1-18 are finally rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. For example:

Regarding claims 4 and 16, claim 4 recites "the second relief angle (E) that is smaller than the first relief angle (D) of the flank area (43). Figure 3 of the instant application shows angle E being greater than angle D. For the purpose of this Office Action, Examiner is assuming the Applicant meant to say that angle (E) is greater than angle (D). Claim 16 recites "the second relief angle (F) that is smaller than the first relief angle (D) of the flank area (43). Figure 4 of the instant application shows angle F being greater than angle D. For the purpose of this Office Action, Examiner is assuming the Applicant meant to say that angle (E and F) are greater than angle (D).

Regarding Claim 8, Applicant recites "increases as a function of the bevel angle",
"...has different surfaces..."

Regarding Claim 9, Applicant recites "function of increase representing the sine of the bevel angle"

Regarding Claim 10, Applicant recites "function of increase"

Regarding Claim 11, Applicant recites "smooth curve of moment of inertia as to bending (I), as a function of a current height position X"

Regarding Claim 14, Applicant recites "smoothing function..... variation in the moment of inertia.."

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

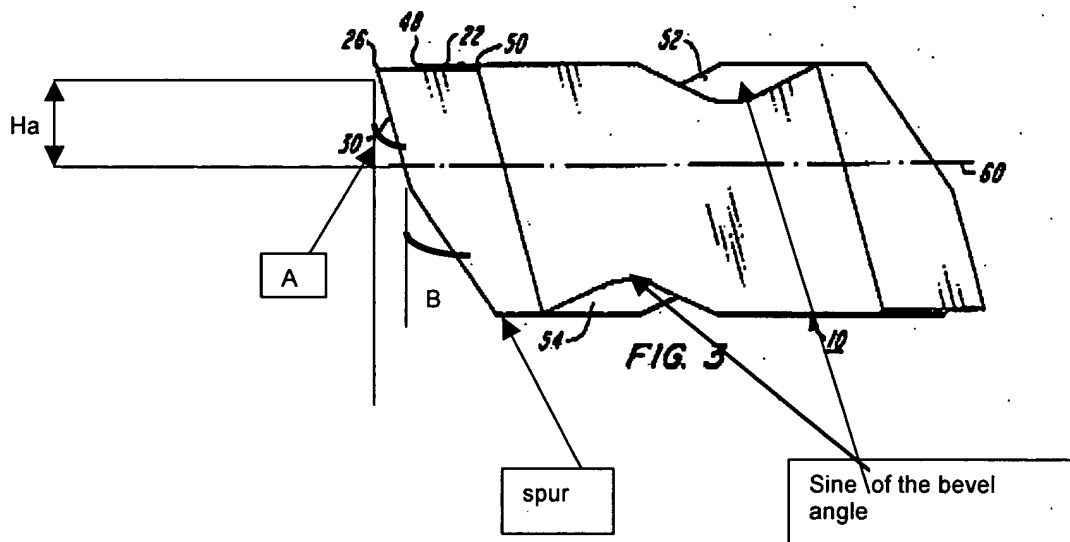
Claims 3-18, are finally rejected under 35 U.S.C. 103(a) as being unpatentable over Niebauer (U.S. Patent No. 4,993,893), in view of Vollmer et al. (U.S. Patent No. 5,755,536).

Niebauer teaches a cutting insert (10) with integral chip control feature and a laterally projecting tooth, used for threading applications (Col. 1, lines 5-7) bordered by a cutting edge (26) and a spur. Niebauer also teaches flank (14) supporting the cutting edge (26) with a profile having a thickness (H_a) and first relief angle (A), and flank (34) having a second relief angle (B) for bracing flank (14) ($B > A$) (See diagram below and Figures 1). Niebauer also teaches a two-sided insert with two projecting beveled profiles (30 with relief angle that is the equivalent of $F1$, see '893, figure 5 and having a predetermined widening starting at the tip edge and ending at the bracing part 34 with a variation in widening), therefore the insert has "different" surfaces extending from the flank such that the first relief angle (A) increases as the bevel angle increases (i.e. as a function of the bevel angle representing the sine of the bevel angle: see figure below). The bottom of sine curve represents the minimum threshold constant and the upward

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slope representing the upper threshold with the height (position) of X between the upper and lower threshold.

However, Niebauer fails to teach bracing part (14) connecting to the flank area (34) through a transition (curved) portion having a third relief angle. Niebauer also fails to teach the profile of the flank area being curvilinear. Additionally, Niebauer also fails to teach the insert having an S shaped set back.



Vollmer et al. teaches a cutting insert having a laterally projecting tooth, bordered by a cutting edge (9), flank (15) supporting the cutting edge with a profile having a thickness (H1: which is between 10-50% of the thickness T) and first relief angle (zero degrees), a part (A) for bracing part (B) having a profile (11) where the rearward portion (11) has a second relief angle (F) and flank (34) having a second relief angle (B) for bracing flank (14) (the second relief angle F is greater than the first relief angle) (See

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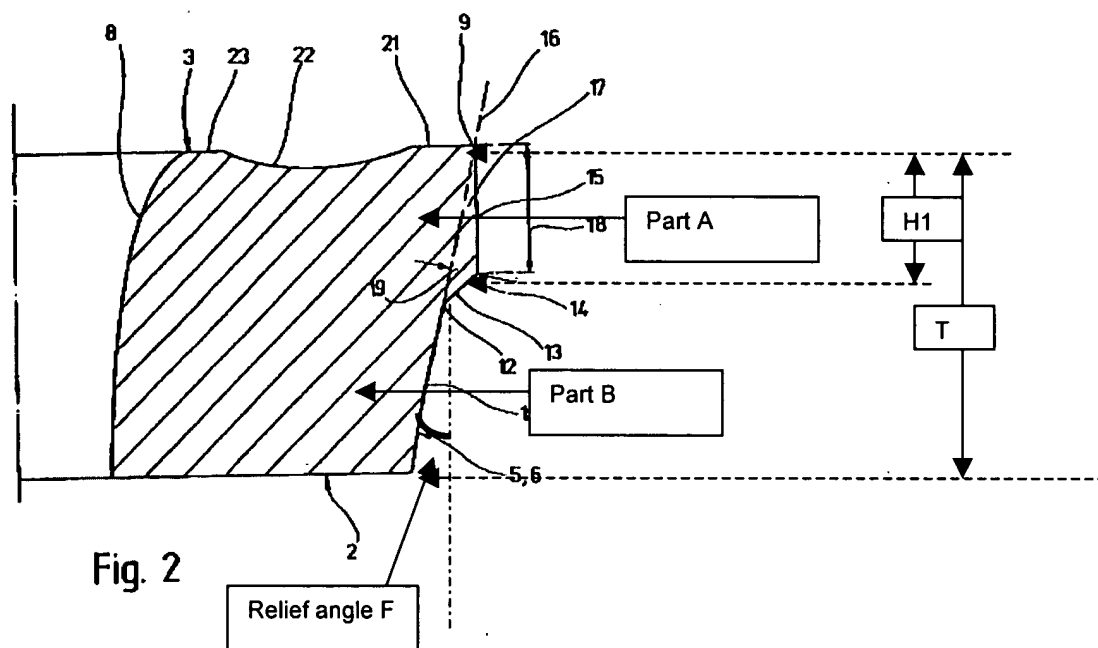
diagram below). Vollmer et al. also teaches transitional face (13) having a third relief angle. Furthermore, Vollmer et al. teaches a set back that is 1-50% of the lateral height of the tool (H1).

Regarding claims 3 and 6, Vollmer et al. fails to teach the transitional face (13) being curved nor the flank area having a curvilinear profile. At the time of the invention was made, it would have been an obvious matter of design choice to a person of ordinary skill in the art to select a curvilinear flank profile and a curved transitional face for ease of manufacturability (Vollmer et al. teaches that it is difficult to form a transitional face as shown in his invention, '536, Col. 5, lines 42-45). Furthermore, Applicant has not disclosed that the curved transition provides an advantage, is used for a particular purpose, or solves a stated problem. One of ordinary skill in the art, furthermore, would have expected the (cutting insert of Vollmer et al. '536), and Applicant's (cutting insert) to perform equally well with either the (straight transitional face taught by Vollmer et al., '536) or the claimed curved portion. Furthermore, Applicant does not provide any criticality or unexpected results for the curved transition as recited in claim 3.

It would have also been obvious to one of ordinary skill in the art at the time of the invention was made to modify Niebauer's invention such that it has a setback, as taught by Vollmer et al. for the purpose of limiting the wear of the insert to the region between the cutting edge and the setback (S-shaped would be a matter of design choice). The feeding force, compared with a cutting insert lacking the setback, thus remains within certain maximum limits over substantially a longer wear distance

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because the material of the strip defined by the setback is worn away first, and the material of the kind that is possible or present in the wear of a normal cutting insert lacking the set back is still then available ('536, Col. 2, lines 6-25).



Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

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A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sara Addisu at (571) 272-6082. The examiner can normally be reached on 8:30 am - 5 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Boyer Ashley can be reached on (571) 272-4502. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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SA
9/6/05

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